

REMARKS

Applicants have amended their claims in order to further clarify the definition of various aspects of the present invention. Specifically, Applicants have amended claim 1 to recite “[a] fuel container for a fuel cell, comprising: a liquid fuel chamber having a space configured for the storage of liquid fuel; a valve disposed in an outlet of the liquid fuel chamber, the valve configured to supply the liquid fuel from the space to the fuel cell or stop the supply of the fuel; a partition wall member slidably movable through the space toward the valve, an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space; and a compressed gas chamber communicating with the space and storing compressed gas, the compressed gas imparting a back pressure to the partition wall member so that the partition wall member moves through the space toward the valve, the liquid fuel chamber and the compressed gas chamber being integral with each other, wherein an entire face of the partition wall member opposing an entire end face of the space adjacent the outlet is configured to come into contact with substantially the entire end face of the space adjacent the outlet by the action of back pressure applied by the compression gas so that the fuel in the fuel container is fully discharged therefrom.”

Applicants have amended claim 3 to recite “[a] fuel container for a fuel cell comprising: a container body storing liquid fuel and compressed gas, the container body having a connection port configured to supply the liquid fuel to the fuel cell; a partition wall member disposed within the container body, the partition wall member partitioning the interior of the container body into a liquid fuel chamber storing the liquid fuel and a compressed gas chamber being juxtaposed to each other, the compressed gas chamber being contiguous to the liquid fuel chamber and with the

compressed gas sealed therein, an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the liquid fuel chamber, the partition wall member slidably movable through the liquid fuel chamber; and a valve disposed in the connection port, wherein an entire face of the partition wall member opposing an entire end face of the liquid fuel chamber of the container body adjacent the connection port is configured to come into contact with substantially the entire end face of the liquid fuel chamber of the container body adjacent the connection port by the action of the back pressure applied by the compression gas so that the fuel in the fuel container is fully discharged therefrom."

Applicants have amended claim 16, which formerly recited "to allow communication between an liquid fuel chamber", to currently recite "to allow communication between the liquid fuel chamber".

Applicants have amended claim 17 to recite "[a] fuel container for a fuel cell according to claim 1, wherein the entire outer perimeter surface of the partition wall member is in airtight contact with the inner perimeter wall of the space, and the entire face of the partition wall is configured to conform against the entire end face of the space adjacent the outlet."

Applicants have amended claim 20 to recite "[a] fuel container for a fuel cell according to claim 3, wherein the entire outer perimeter surface of the partition wall member is in airtight contact with the inner perimeter wall of the liquid fuel chamber of the container body, and the entire face of the partition wall is configured to conform against the entire end face of the liquid fuel chamber of the container body adjacent the connection port."

For example, and not to be limiting, support for the current amendments may be found in the specification at page 9, line 1 through page 10, line 4; page 15, line

13 through page 16, line 17; page 19, lines 4-22; page 20, line 17 through page 21, line 3; and Figs. 1(b), 7(b) and 10(b).

Applicants note the Office Action mailed March 2, 2011, in connection with the subject application. Applicants acknowledge the Office communication mailed March 18, 2011, vacating the Office Action mailed March 2, 2011.

Applicants note that the rejections of claims 1-12 on the ground of non-statutory obviousness-type double patenting, as set forth on pages 3-5 of the Office Action mailed September 10, 2010, are not renewed in the Office Action mailed June 10, 2011; and Applicants treat the rejections as withdrawn.

As to the current rejection of claims 1-5, 13-15, 19, and 22 under 35 USC § 102(b) as being anticipated by Shulsinger, U.S. Patent No. 4,108,219 (hereinafter Shulsinger); the current rejection of claim 8 under 35 USC § 103(a) as being unpatentable over Shulsinger in view of Lippman et al., U.S. Patent No. 5,423,454 (hereinafter Lippman); the current rejection of claim 9 under 35 USC § 103(a) as being unpatentable over Shulsinger in view of Gupta, U.S. Patent Application Pub. No. 2003/0019888 (hereinafter Gupta); the current rejection of claims 10 and 11 under 35 USC § 103(a) as being unpatentable over Shulsinger in view Japanese Patent Application Pub. No. 60-86744 (hereinafter '744); the current rejection of claim 12 under 35 USC § 103(a) as being unpatentable over Shulsinger in view of Yonetsu et al., U.S. Patent Application Pub. No. 2003/0082421 (hereinafter Yonetsu); the current rejection of claim 16 under 35 USC § 103(a) as being unpatentable over Shulsinger in view of Webster, U.S. Patent No. 3,005,577 (hereinafter Webster); and the current rejection of claims 17, 18, 20, and 21 under 35 USC § 103(a) as being unpatentable over Shulsinger in view of Hoffman et al., U.S. Patent No. 3,132,570 (hereinafter Hoffman); such rejections are traversed insofar as

they are applicable to the present claims, and reconsideration and withdrawal of the rejections are respectfully requested.

The present invention is directed to a fuel container for a fuel cell. As to portable personal computers and other electric devices, the use of a fuel cell is now under study as a small-sized power supply. Specification, page 2, lines 10-13. As for the fuel cell, a direct methanol fuel cell (DMFC) using as fuel, for example, a mixed solution of methanol and pure water or ethanol and pure water is now under study. Specification, page 2, lines 13-16. The fuel cell requires a fuel container (e.g., fuel cartridge) for the storage and supply of fuel. Specification, page 2, lines 16-18. The shape of the fuel container is determined, for example, in accordance with the shape of an accommodation chamber of the fuel container in the body of the fuel cell or in such a device as a notebook-size personal computer which carries the fuel cell thereon. Specification, page 2, lines 19-23. In the case of a fuel container having a cylindrical outline, not only is the morphological freedom low, but the volumetric efficiency of fuel contained is low due to a limited installation space. Specification, page 2, line 23 through page 3, line 2.

In the case of such a small-sized device as the notebook-size personal computer, the entire size of the device is limited to the notebook size, and therefore, it is desired that a fuel supply pump, a pressure regulating mechanism and a fuel residue detecting mechanism be omitted. Specification, page 3, lines 9-13. Particularly, for improving the convenience on the user side, it is desired that the fuel container be inexpensive and low in both size and weight. Specification, page 3, lines 14-16.

Against this background, Applicants have found that the above noted problems may be avoided by providing a fuel container for a fuel cell, comprising: a

liquid fuel chamber having a space configured for the storage of liquid fuel; a valve disposed in an outlet of the liquid fuel chamber, the valve configured to supply the liquid fuel from the space to the fuel cell or stop the supply of the fuel; a partition wall member slidably movable through the space toward the valve, an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space; and a compressed gas chamber communicating with the space and storing compressed gas, the compressed gas imparting a back pressure to the partition wall member so that the partition wall member moves through the space toward the valve, the liquid fuel chamber and the compressed gas chamber being integral with each other, wherein an entire face of the partition wall member opposing an entire end face of the space adjacent the outlet is configured to come into contact with substantially the entire end face of the space adjacent the outlet by the action of back pressure applied by the compression gas so that the fuel in the fuel container is fully discharged therefrom.

In response to the rejection of claims 1-5, 13-15, 19, and 22 under 35 USC § 102(b) as being anticipated by Shulsinger, it is noted that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); *Manual of Patent Examining Procedure* (MPEP) §2131, Eighth Edition August 2001, Latest Revision July 2010.

Shulsinger discloses a can for spraying atomized liquids. Shulsinger, abstract. Shulsinger also discloses:

Continued actuation of the aerosol valve 17 will then cause the piston 23 to move up within the cylinder 21 until it contacts the valve. In this manner, the manufacturer will have completely pressurized the volume 29 and substantially evacuated and collapsed the volume 31.

Shulsinger col. 5, lines 2-7 (emphasis added); and Fig. 1. Shulsinger also discloses:

Within the cylinder 21, a double-ended piston 23 may be provided having peripheral sealing lips 25 and 27 thereon. The piston may be manufactured from any suitable material, although in this embodiment it is presently preferred to produce it from a plastic which is pliable when formed in thin sections, such as Teflon or Nylon. Consequently, the lips 25 and 27 may be formed integral with the body of the piston 23 and may be biased outwardly toward the internal wall of the cylinder 21 to form a seal against the wall at each end of the piston.

Shulsinger, col. 4, lines 1-11

It is submitted that Shulsinger does not expressly or inherently disclose the subject matter recited in claim 1, including, inter alia, "an entire face of the partition wall member opposing an entire end face of the space adjacent the outlet is configured to come into contact with substantially the entire end face of the space adjacent the outlet by the action of back pressure applied by the compression gas so that the fuel in the fuel container is fully discharged therefrom", for at least the following reasons. In Shulsinger, the piston 23, having a flat upper surface (see Fig. 1 of Shulsinger), moves up within the cylinder 21 until it contacts the valve 17, which protrudes inside the cylinder from the upper surface of the inside of cylinder (see Fig. 1 of Shulsinger). When the piston of Shulsinger is pushed upward, the structure of Shulsinger causes a space to be formed between the upper surface of the piston and the upper surface of the inside of the cylinder, since the valve protrudes inside the cylinder and prevents further motion; and this structure of Shulsinger is different from the subject matter recited in claim 1, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the space adjacent the outlet [...] so that the fuel in the fuel container is fully discharged therefrom", at least, because the upper surface of the

piston of Shulsinger does not contact the upper surface of the inside of cylinder and fully discharge the gas therein.

It is also submitted that Shulsinger does not expressly or inherently disclose the subject matter recited in claim 3, including, inter alia, "an entire face of the partition wall member opposing an entire end face of the liquid fuel chamber of the container body adjacent the connection port is configured to come into contact with substantially the entire end face of the liquid fuel chamber of the container body adjacent the connection port by the action of the back pressure applied by the compression gas so that the fuel in the fuel container is fully discharged therefrom", for at least the following reasons. In Shulsinger, the piston 23, having a flat upper surface (see Fig. 1 of Shulsinger), moves up within the cylinder 21 until it contacts the valve 17, which protrudes inside the cylinder from the upper surface of the inside of cylinder (see Fig. 1 of Shulsinger). When the piston of Shulsinger is pushed upward, the structure of Shulsinger causes a space to be formed between the upper surface of the piston and the upper surface of the inside of the cylinder, since the valve protrudes inside the cylinder and prevents further motion; and this structure of Shulsinger different from the subject matter recited in claim 3, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the liquid fuel chamber of the container body adjacent the connection port [...] so that the fuel in the fuel container is fully discharged therefrom", at least, because the upper surface of the piston of Shulsinger does not contact the upper surface of the inside of cylinder and fully discharge the gas therein.

In addition, it is submitted that the subject matter disclosed in Shulsinger including lips 25 and 27 may be formed integral with the body of the piston 23 and

may be biased outwardly toward the internal wall of the cylinder 21 to form a seal against the wall at each end of the piston, fails to expressly or inherently disclose the subject matter recited in claim 1, including, inter alia, "an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space", and the subject matter recited in claim 3, including, inter alia, "an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the liquid fuel chamber", at least because lips biased outwardly from a piston to form a seal against the internal wall of the cylinder of Shulsinger is not the same as an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space, as in claim 1, and an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the liquid fuel chamber, as in claim 3.

It is also submitted that Shulsinger does not expressly or inherently disclose the subject matter recited in claims 1 and 3, at least, because Shulsinger discloses a can for spraying atomized liquids, not "[a] fuel container for a fuel cell [...] configured for the storage of liquid fuel", as recited in claim 1, or "[a] fuel container for a fuel cell [...] configured to supply the liquid fuel to the fuel cell", as recited in claim 3.

Therefore, for at least the reasons noted above, it is respectfully submitted that the subject matter disclosed in Shulsinger fails to anticipate the subject matter recited in claims 1 and 3.

Claims 2, 4, 13-15, and 19, depend on claim 1, claim 22 depends on claim 3, and claim 5 depends on any of claims 1 to 3. A dependent claim refers back to, and incorporates, the subject matter recited in the claim on which it depends. Moreover, the subject matter recited in a dependent claim must be read as a whole with the subject matter recited in the claim on which it depends. Therefore for at least the

reasons noted above, it is submitted that the subject matter disclosed in Shulsinger does not anticipate claims 2, 4, 5, 13-15, 19, and 22, and the subject matter recited therein.

In response to the rejection of claim 8 under 35 U.S.C. §103(a) as being unpatentable over Shulsinger in view of Lippman, it is submitted that a combination of the subject matter disclosed in Shulsinger and Lippman would not have disclosed or rendered obvious the subject matter recited in claim 8, for at least the reasons noted below.

The disclosure of Shulsinger is noted above. Lippman discloses a method for the generation of a propellant gas, for dispensing products, e.g., aerosols, by electrochemical means through the electrolysis of a chemical mixture. Lippman, col. 4, lines 63-66. Lippman also discloses that for most common aerosol applications, a gas pressure of between 10 to 40 psi is common. Lippman, col. 5, lines 60-62. Lippman also discloses the propellant module (electrolytic cell) provides pressure upon a movable wall (polyethylene piston) which moves to force product through the valve, when the valve is opened. Lippman, col. 11, lines 34-37.

Claim 8 depends on any of claims 1 to 3. As noted above, Shulsinger fails to disclose the subject matter recited in claim 1, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the space adjacent the outlet [...] so that the fuel in the fuel container is fully discharged therefrom", at least, because the upper surface of the piston of Shulsinger does not contact the upper surface of the inside of cylinder and fully discharge the gas therein.

It is submitted that Lippman would not have remedied the above-noted deficiencies of Shulsinger with respect to the subject matter recited in claim 1, at

least, because Lippman does not disclose the subject matter recited in claim 1, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the space adjacent the outlet [...] so that the fuel in the fuel container is fully discharged therefrom"; and the Office Action provides no apparent reason why a combination of Shulsinger and Lippman would have disclosed or rendered obvious such subject matter recited in claim 1.

In addition, as noted above, Shulsinger fails to disclose the subject matter recited in claim 3, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the liquid fuel chamber of the container body adjacent the connection port [...] so that the fuel in the fuel container is fully discharged therefrom", at least, because the upper surface of the piston of Shulsinger does not contact the upper surface of the inside of cylinder and fully discharge the gas therein.

It is submitted that Lippman would not have remedied the deficiencies of Shulsinger with respect to the subject matter recited in claim 3, at least, because Lippman does not disclose the subject matter recited in claim 3, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the liquid fuel chamber of the container body adjacent the connection port [...] so that the fuel in the fuel container is fully discharged therefrom"; and the Office Action provides no apparent reason why a combination of Shulsinger and Lippman would have disclosed or rendered obvious such subject matter recited in claim 3.

It is also submitted that a combination of the subject matter disclosed in Shulsinger and Lippman would not have disclosed or rendered obvious the subject

matter recited in claims 1 and 3, at least, because Shulsinger discloses a can for spraying atomized liquids, and Lippman discloses a method for the generation of a propellant gas, for dispensing products, e.g., aerosols, by electrochemical means, which are not the same as at least "[a] fuel container for a fuel cell [...] configured for the storage of liquid fuel", as recited in claim 1, and at least "[a] fuel container for a fuel cell [...] configured to supply the liquid fuel to the fuel cell", as recited in claim 3.

Therefore, for at least the reasons noted above, it is submitted that the subject matter recited in claims 1 and 3 would not have been obvious over a combination of the subject matter disclosed in Shulsinger and Lippman.

Claim 2 depends on claim 1, and claim 8 depends on any of claims 1 to 3. A dependent claim refers back to, and incorporates, the subject matter recited in the claim on which it depends. Moreover, the subject matter recited in a dependent claim must be read as a whole with the subject matter recited in the claim on which it depends. Therefore, for at least the reasons noted above, Applicants respectfully submit that claims 1-3 and 8 would not have been obvious over a combination of the subject matter disclosed in Shulsinger and Lippman

In response to the rejection of Claim 9 under 35 U.S.C. §103(a) as being unpatentable over Shulsinger in view of Gupta, it is respectfully submitted that a combination of the subject matter disclosed in Shulsinger and Gupta would not have disclosed or rendered obvious the subject matter recited in Claim 9, for at least the reasons noted below.

The disclosure of Shulsinger is noted above. Gupta discloses:

A piston for a pressurized container (i.e., "aerosol can"), the piston including a body having circumferential fins, with the fins being of uniform thickness, decreasing thickness radially away from the body, or varying thickness circumferentially.

Gupta, abstract. Gupta also discloses propellant such as isobutane, n-butane, propane, dimethyloxide, fluorocarbons, compressed air, nitrogen, and carbon dioxide. Gupta, paragraph [0098]. Gupta discloses:

The main body of piston 200 includes an upper portion 202 which is generally shaped to be received into the inner top surface of container 100 so that product dispersion is not limited by cap 104 prematurely restricting the upper extent of travel of piston 200. Upper portion 202 may also include a concave portion 203 to avoid impinging on any portion of valve system 112 that extends into the top portion of container 100. Preferably, upper portion 202 is shaped not only to be received into, but also to conform to the inner top surface of container 100.

Gupta, paragraph [0055]. Gupta also discloses:

In the practice of the present invention, piston 200 includes at least one, and preferably at least two, even more preferably at least three sealing fins 300, positioned supported by and circumferentially extending around piston 200 in a manner suitable for forming a seal against the inner wall of container 100 once fins 300 are activated in response to pressure from the propellant.

Gupta, paragraph [0061].

Claim 9 depends on any of claims 1 to 3. As noted above, Shulsinger fails to expressly or inherently disclose the subject matter recited in claim 1, including, inter alia, "an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space", and the subject matter recited in claim 3, including, inter alia, "an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the liquid fuel chamber", at least because lips biased outwardly from a piston to form a seal against the internal wall of the cylinder of Shulsinger is not the same as an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space, as in claim 1, and an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the liquid fuel chamber, as in claim 3.

It is submitted that Gupta would not have remedied the deficiencies of Shulsinger with respect to the subject matter recited in claim 1, including, inter alia, "an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space", and the subject matter recited in claim 3, including, inter alia, "an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the liquid fuel chamber", at least because sealing fins, positioned supported by and circumferentially extending around piston in a manner suitable for forming a seal against the inner wall of container, as disclosed in Gupta, is not the same as an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space, as in claim 1, and an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the liquid fuel chamber, as in claim 3.

It is also submitted that the subject matter disclosed in Gupta would not have remedied the deficiencies of Shulsinger with respect to, at least, the subject matter recited in claim 1, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the space adjacent the outlet", or the subject matter recited in claim 3, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the liquid fuel chamber of the container body adjacent the connection port", at least, because Gupta discloses the upper portion of the piston may also include a concave portion to avoid impinging on any portion of valve system that extends into the top portion of container, which is not the same as the subject matter recited in claim 1, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with

substantially the entire end face of the space adjacent the outlet", and the subject matter recited in claim 3, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the liquid fuel chamber of the container body adjacent the connection port."

Therefore, for at least the reasons noted above, it is submitted that the subject matter recited in claims 1 and 3 would not have been obvious over a combination of the subject matter disclosed in Shulsinger and Gupta.

Claim 2 depends on claim 1, and claim 9 depends on any of claims 1 to 3. A dependent claim refers back to, and incorporates, the subject matter recited in the claim on which it depends. Moreover, the subject matter recited in a dependent claim must be read as a whole with the subject matter recited in the claim on which it depends. Therefore, for at least the reasons noted above, Applicants respectfully submit that claims 1-3 and 9 would not have been obvious over a combination of the subject matter disclosed in Shulsinger and Gupta.

In addition, Applicants respectfully submit that a combination of the subject matter disclosed in Shulsinger and Gupta would not have disclosed or rendered obvious "[a] fuel container for a fuel cell according to any of claims 1 to 3, wherein the compressed gas is an oxygen-free gas", as recited in claim 9, for at least the reasons noted below. Shulsinger would have taught away from the compressed gas is an oxygen-free gas, as recited in claim 9, since Shulsinger discloses "[i]n the preferred embodiment of the invention, the propulsion force may be generated by a gas, preferably air, under pressure" (Shulsinger, col. 2, lines 27-29). Moreover, Applicants respectfully submit that Gupta would have taught away from the compressed gas is an oxygen-free gas, as recited in claim 9, at least, because

Gupta discloses a propellant of "compressed air" (Gupta, paragraph [0098]), and air contains oxygen.

In response to the rejection of claims 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Shulsinger in view of '744, it is submitted that a combination of the subject matter disclosed in Shulsinger and '744 would not have disclosed or rendered obvious the subject matter recited in claims 10 and 11, for at least the reasons noted below.

Claims 10 and 11 both depend on any of claims 1 to 3. The disclosure of Shulsinger is noted above. While a translation of the claim of the '744 reference recites a cartridge tank for a fuel oil burner having a measuring window of a direct transparent view type, wherein the window has a pair of scales each of which has an opposite direction, it is respectfully submitted that the '744 reference would not have remedied the above-noted deficiencies of Shulsinger with respect to the subject matter recited in claims 1 to 3, at least because the '744 reference fails to disclose a fuel container having a structure configured such that the fuel in the fuel container is fully discharged therefrom. Therefore, for at least the reasons noted above, Applicants respectfully submit that claims 1 and 3 would not have been obvious over a combination of Shulsinger and the '744 reference.

Claim 2 depends on claim 1, and claims 10 and 11 depend on any of claims 1 to 3. A dependent claim refers back to, and incorporates, the subject matter recited in the claim on which it depends. Moreover, the subject matter recited in a dependent claim must be read as a whole with the subject matter recited in the claim on which it depends. Therefore, for at least the reasons noted above, Applicants respectfully submit that claims 10 and 11, and the subject matter recited therein,

would not have been obvious over a combination of Shulsinger and the reference '744.

In response to the rejection of claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Shulsinger in view of Yonetsu, Applicants respectfully submit a combination of the subject matter disclosed in Shulsinger and Yonetsu would not have disclosed or rendered obvious the subject matter recited in claim 12, for at least the reasons noted below.

Claim 12 depends on any of claims 1 to 3. The disclosure of Shulsinger is noted above. While Yonetsu discloses a mixture of methanol and water is used as the fuel for the fuel cell (Yonetsu, paragraph [0006]); and in the liquid fuel tank shown in FIG. 7A, a fuel sealing part 30 is pushed by a spring 14, and the liquid fuel 7 is pushed out through the fuel outlet port 12 (Yonetsu, paragraph [0063]), it is respectfully submitted that that Yonetsu would not have remedied the above-noted deficiencies of Shulsinger, with respect to the subject matter recited in claims 1 and 3, at least, because Yonetsu fails to disclose a fuel container having a structure configured such that the fuel in the fuel container is fully discharged therefrom. Therefore, for at least the reasons noted above, it is submitted that the subject recited in claims 1 and 3 would not have been obvious over a combination of the subject matter disclosed in Shulsinger and Yonetsu.

Claim 2 depends on claim 1; and claim 12 depends on any of claims 1 to 3. A dependent claim refers back to, and incorporates, the subject matter recited in the claim on which it depends. Moreover, the subject matter recited in a dependent claim must be read as a whole with the subject matter recited in the claim on which it depends. Therefore, for at least the reasons noted above, Applicants respectfully submit that claims 1 to 3 and 12, and the subject matter recited therein, would not

have been obvious over a combination of the subject matter disclosed in Shulsinger and Yonetsu.

In response to the rejection of claim 16 under 35 USC § 103(a) as being unpatentable over Shulsinger in view of Webster, it is submitted that a combination of the subject matter disclosed in Shulsinger and Webster would not have rendered obvious the subject matter recited in claim 16, for at least the reasons noted below.

Claim 16 depends on claim 1. The disclosure of Shulsinger is noted above. Webster discloses a combined dispensing and excess pressure relief valve with a valve housing which is preferably a hollow structure with an open inlet end which extends into the pressurized fluid container in connection with which the valve is used. Webster, col. 1, lines 68-72. However, it is submitted that Webster would not have remedied the above-noted deficiencies of Shulsinger, with respect to the subject matter recited in claim 1, at least because Webster fails to disclose a fuel container having a structure configured such that the fuel in the fuel container is fully discharged therefrom.

Claim 16 depends on claim 1. A dependent claim refers back to, and incorporates, the subject matter recited in the claim on which it depends. Moreover, the subject matter recited in a dependent claim must be read as a whole with the subject matter recited in the claim on which it depends. Therefore, for at least the reasons noted above, Applicants respectfully submit that claim 16, and the subject matter recited therein, would not have been obvious over a combination of the subject matter disclosed in Shulsinger and Webster.

In response to the rejection of claims 17, 18, 20, and 21 under 35 USC § 103(a) as being unpatentable over Shulsinger in view of Hoffman, it is submitted that a combination of the subject matter disclosed in Shulsinger and Hoffman would not

have rendered obvious the subject matter recited in claims 17, 18, 20, and 21, for at least the reasons noted below.

The disclosure of Shulsinger is noted above. Hoffman discloses:

[A] piston for use in an aerosol-type container, which piston has a substantially cylindrical but slightly tapered body, the maximum diameter thereof being slightly less than the interior diameter of the can with which it is to be utilized, an arcuate wall integral with the smaller diameter end of the body curving appreciably inwardly to merge and be integral with a piston face.

Hoffman, col. 1, lines 58-64. Hoffman also discloses:

The piston face 28 will be contoured to fit relatively snugly over and around the portion of the valve 17 extending into the can 10 so that the maximum amount of product will be dispensed from the can. Therefore, the particular shape of the piston face 28 may vary depending upon the particular shape of the valve 17.

Hoffman, col. 3, lines 15-20. Hoffman also discloses:

The appreciable curvature of the arcuate wall 27 is an essential and critical element of the instant invention. Due to this curvature, product in contact therewith is conducted in a smooth, even flow into the small space existing between the outside surface of the piston body 25 and the inside surface of the container, thereby facilitating the formation of a sealing-lubricating layer or film between the piston body and can body.

Hoffman, col. 3, lines 21-28 (emphasis added).

Claims 17 and 18 depend on claim 1, and claims 20 and 21 depend on claim 3. It is submitted that the subject matter disclosed in Hoffman would not have remedied the deficiencies of Shulsinger with respect to the subject matter recited in claim 1, including, inter alia, "an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the space", or the subject matter recited in claim 3, including, inter alia, "an entire outer perimeter surface of the partition wall member being in contact with an inner perimeter wall of the liquid fuel chamber", at least because Hoffman discloses the small space existing between the outside surface of the piston body 25 and the inside surface of the container.

In addition, it is submitted that the subject matter disclosed in Hoffman would not have remedied the above-noted deficiencies of Shulsinger with respect to the subject matter recited in claim 1, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the space adjacent the outlet [...] so that the fuel in the fuel container is fully discharged therefrom"; and the subject matter recited in claim 3, including, inter alia, "an entire face of the partition wall member [...] is configured to come into contact with substantially the entire end face of the liquid fuel chamber of the container body adjacent the connection port [...] so that the fuel in the fuel container is fully discharged therefrom", at least, because the subject matter disclosed in Hoffman, including the piston face 28 will be contoured to fit relatively snugly over and around the portion of the valve 17 extending into the can 10, is not the same as the entire face of the partition wall member is configured to come into contact with substantially the entire end face of the space or liquid fuel chamber.

Therefore, for at least the reasons noted above, it is submitted that the subject matter recited in claims 1 and 3 would not have been obvious over a combination of the subject matter disclosed in Shulsinger and Hoffman.

Claims 17 and 18 depend on claim 1, and claims 20 and 21 depend on claim 3. A dependent claim refers back to, and incorporates, the subject matter recited in the claim on which it depends. Moreover, the subject matter recited in a dependent claim must be read as a whole with the subject matter recited in the claim on which it depends. Therefore, for at least the reasons noted above, Applicants respectfully submit that claims 17, 18, 20, and 21, and the subject matter recited therein, would not have been obvious over a combination of the subject matter disclosed in Shulsinger and Hoffman.

Docket No. 520.46387X00
Application No. 10/586,685
September 12, 2011

In view of the foregoing comments and amendments, reconsideration and allowance of all claims presently in the application are respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Docket No. 520.46387X00) and please credit any excess fees to such Deposit Account.

Respectfully submitted,

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